

In the Claims:

1. (Original) A method of forwarding a packet to a destination comprising:
examining a header of said packet to determine a private destination address;
determining a private address of a private remote sub-endpoint of a tunnel, said private sub-endpoint being associated with said private destination address;
determining a public address of a public remote sub-endpoint of said tunnel;
encapsulating said packet, resulting in an encapsulated packet, to indicate a public address of a public local sub-endpoint of said tunnel as a source address and said public address of said public remote sub-endpoint of said tunnel as a destination address; and
forwarding said encapsulated packet to a node in a carrier network.
2. (Original) The method of claim 1 wherein said tunnel is a point to multipoint tunnel.
3. (Previously Presented) The method of claim 1 wherein said determining said private address of said private remote sub-endpoint of said tunnel comprises consulting a routing table to discover an address associated with said private destination address of said packet.
4. (Currently Amended) The method of claim 1 wherein said determining said public address of said public remote sub-endpoint of said tunnel comprises consulting a static address resolution protocol table to discover an address associated with said private address of said ~~first~~ private remote sub-endpoint of said tunnel.
5. (Original) The method of claim 1 further comprising determining a private address of a first local sub-endpoint of said tunnel.
6. (Previously Presented) The method of claim 5 wherein said determining said private address of said first local sub-endpoint of said tunnel comprises consulting a forwarding table to discover an address associated with said private address of said private remote sub-endpoint of said tunnel.
7. (Original) A carrier router comprising:

a backbone router including:

a public network interface for connecting to a public data network; and

a sub-endpoint for a tunnel having a network address in an address space of said public data network; and

a customer virtual router including:

a private network interface for connecting to a private data network; and

a sub-endpoint for said tunnel having a network address in an address space of said private data network.

8. (Original) A carrier router comprising:

a private network interface;

a public network interface;

a processor operable to:

receive a packet at said private network interface;

examine a header of said packet to determine a private destination address;

determine a private address of a private remote sub-endpoint of a tunnel, said private sub end-point being associated with said private destination address;

determine a public address of a public remote sub-endpoint of said tunnel;

encapsulate said packet, resulting in an encapsulated packet, to indicate a public address of a public local sub-endpoint of said tunnel as a source address and said public address of said public remote sub-endpoint of said tunnel as a destination address; and

forward said encapsulated packet to a node in a public network via said public network interface.

9. (Currently Amended) A computer readable medium containing computer executable instructions which, when performed by a processor in a carrier router, cause the processor to:

examine a header of said a packet to determine a private destination address;

determine a private address of a private remote sub-endpoint of a tunnel, said private sub-endpoint being associated with said private destination address;

determine a public address of a public remote sub-endpoint of said tunnel;

encapsulate said packet, resulting in an encapsulated packet, to indicate a public address of a public local sub-endpoint of said tunnel as a source address and said public address of said public remote sub-endpoint of said tunnel as a destination address; and
forward said encapsulated packet to a node in a carrier network.

10. (Original) A method of receiving a packet, said packet having public source and destination addresses and private source and destination addresses, said method comprising:
receiving said packet from a node in a carrier data network;
forwarding said packet to a first tunnel sub-endpoint having said public destination address;
at said first tunnel sub-endpoint, removing said public source and destination addresses from said packet;
forwarding said packet to a second tunnel sub-endpoint; and
at said second tunnel sub-endpoint, forwarding said packet to a device having said private destination address.

11. (Currently Amended) A computer readable medium containing computer-executable instructions which process a packet having public source and destination addresses and private source and destination addresses which, when performed by a processor in a carrier router, cause the processor to:

receive said packet from a node in a carrier data network;
forward said packet to a first tunnel sub-endpoint having said public destination address;
at said first tunnel sub-endpoint, remove said public source and destination addresses from said packet;
forward said packet to a second tunnel sub-endpoint; and
at said second tunnel sub-endpoint, ~~remove~~ forward said packet to a device having said private address.

12-16. (Cancelled).